

We claim:

1. A method for preventing gas bubble formation on a workpiece surface using a process solution as the surface is brought in contact with the process solution for an electrochemical process, the method comprising:
  - bringing the workpiece surface in proximity of surface of the process solution;
  - directing a process solution flow towards central region of the workpiece surface for a predetermined time; and
  - contacting the central region of the workpiece surface with the process solution flow for the predetermined time to prevent bubble formation.
2. The method of Claim 1, further comprising the step of immersing the workpiece surface into the process solution as the process solution flow is reduced.
3. The method of Claim 1, wherein the step of contacting comprises contacting the central region of the workpiece surface with the flow of the process solution before rest of the surface is immersed into the process solution.
4. The method of Claim 1, wherein the step of bringing comprises holding the workpiece surface at a predetermined distance above the surface of the process solution prior to the step of moving.
5. The method of Claim 1, wherein the step of directing the process solution flow comprises forming a raised process solution surface across from the central region of the workpiece surface.
6. The method of Claim 5, wherein the raised process solution surface reduces the distance between the central region of the workpiece surface and the process solution flow.

7. The method of Claim 6, wherein during the step of contacting raised process solution surface touch the central region of the workpiece surface before the rest of the workpiece surface.

8. The process of Claim 2, further comprising the step of electropchemically processing the workpiece surface.

9. The method of Claim 1, wherein the electrochemical process is an electrochemical deposition process.

10. The method of Claim 1, wherein the electrochemical process is an electrochemical polishing process.

11. A system for avoiding formation of gas bubbles on a selected region of a surface of a workpiece in a process chamber as workpiece surface is brought in contact with the process solution for an electrochemical process using a process solution, comprising:

a workpiece carrier to hold and move the workpiece; and

a solution shaper having at least one high flow section to direct a process solution flow towards the selected region of the workpiece surface for a predetermined time, wherein the solution shaper is adapted to move to bring the high flow section under the selected region of the workpiece surface.

12. The system of Claim 11, wherein the solution shaper comprises one or more shaping members.

13. The system of Claim 12, wherein the solution shaper comprises a first shaping member and a second shaping member.
14. The system of Claim 13, wherein the shaping members are plates that are moved towards each other to form the high flow region under the selected region of the workpiece.
15. The system of Claim 14, wherein the shaping members are moved away from each other after the predetermined time to remove the high flow region and to stop directing the process solution flow.
16. The system of Claim 14, the high flow region is comprised of at least one flow opening.
17. The system of Claim 16, wherein the shaping members include one or more openings that allow the process solution to flow towards the surface of the workpiece.
18. The system of Claim 17, wherein the openings are smaller than the at least one flow opening.
19. The system of Claim 14, wherein the high flow region is comprised of a slit.
20. The system of Claim 11, wherein the solution shaper is removable plate which is used during the bubble removal and is removed after the bubble removal.
21. The system of Claim 20, wherein the removable plate includes a plurality of flow openings in differing sizes, wherein large openings are grouped to form the high flow region.

22. The system of Claim 11, wherein the solution shaper is a solution shaper section of a movable process belt.
23. The system of Claim 22, wherein the process belt includes a process opening to move over the surface of the process solution after the bubble removal performed with the solution shaper section.
24. The system of Claim 11, wherein the selected region is central region of the surface of the workpiece.
25. The system of Claim 11, wherein the workpiece is a semiconductor wafer.